

PROJECT DESCRIPTION  
GENERAL

THIS PROJECT INVOLVES THE MODIFICATION OF THE EXISTING) TRAFFIC SIGNAL AT THE INTERSECTION OF US 40 AND OLD CAMP ROAD IN THE CITY OF FREDERICK. US 40 IS CONSIDERED TO RUN IN AN EAST/WEST DIRECTION.

THE EXISTING CROSSING FOR THE WEST LEG IS TO HAVE THE PEDESTRIAN PUSHBUTTONS UPGRADED TO APS. AN ADDITIONAL PEDESTRIAN CROSSING IS TO BE ADDED FOR THE SOUTH LEG OF THE INTERSECTION.

INTERSECTION OPERATION

THE EXISTING CABINET/CONTROLLER ARE TO BE UTILIZED. APS AND VIDEO DETECTION EQUIPMENT IS TO BE INSTALLED.

THE INTERSECTION OPERATES IN A FULLY ACTUATED MODE USING 6 NEMA PHASES. THERE IS AN EXCLUSIVE LEFT TURN PHASE FOR BOTH THE EAST AND WESTBOUND MOVEMENTS OF US 40. THE US 40 THROUGH MOVEMENTS OPERATE CONCURRENTLY. A CONCURRENT PEDESTRIAN MOVEMENT ACROSS THE SOUTH LEG IS TO BE ADDED. THE OLD CAMP ROAD MOVEMENTS OPERATE IN A SIDE STREET SPLIT OPERATION WITH AN ACTUATED PEDESTRIAN MOVEMENT ACROSS THE WEST LEG OF THE INTERSECTION.

SPECIAL NOTES

1. THE CONTACT PERSONS FOR THIS PROJECT ARE AS FOLLOWS:

MR. JOHN CONCANNON, ASSISTANT DISTRICT ENGINEER - TRAFFIC  
PHONE: (301) 624-8140

MR. JOHN HUCHROWSKI, ASSISTANT DISTRICT ENGINEER - CONSTRUCTION  
PHONE: (301) 624-8200

MS. SUE PALMER, ASSISTANT DISTRICT ENGINEER - MAINTENANCE  
PHONE: (301) 624-8105

MS. ANDREA ABEND, UTILITY ENGINEER  
PHONE: (301) 624-8115

MR. RICHARD L. DAFF, SR. CHIEF TRAFFIC OPERATIONS DIVISION  
PHONE: (410) 787-7630

MR. EDWARD RODENHIZER, SUPERVISOR, SIGNAL OPERATIONS  
PHONE: (410) 787-7652

2. ALL INTERNAL CABINET WIRING SHALL BE PERFORMED BY THE SHA SIGNAL SHOP. CONTRACTOR SHALL CONTACT ED RODENHIZER 72 HOURS PRIOR TO CONSTRUCTION.

3. APS WILL FUNCTION AS FOLLOWS:

FOR US 40 (Baltimore National Pike)

A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON MESSAGE WILL BE "WAIT TO CROSS BALTIMORE NATIONAL at OLD CAMP. WAIT"

B. WHEN WALK PHASE BEGINS, THE AUDIBLE SOUND WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

FOR OLD CAMP ROAD

A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON MESSAGE WILL BE "WAIT TO CROSS OLD CAMP at BALTIMORE NATIONAL, WAIT"

B. WHEN WALK PHASE BEGINS, THE AUDIBLE SOUND WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

4. THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT 410-787-7631 TO ARRANGE FOR THE PHONE DROP INSTALLATION. THE CONTRACTOR IS TO PROVIDE MR. SNYDER WITH THE NEAREST STREET NUMBER, ZIP CODE, AND TELEPHONE NUMBER.

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY THE ADMINISTRATION.

NONE.

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

QUANTITY	UNITS	DESCRIPTION	QUANTITY	UNITS	DESCRIPTION
LUMP SUM	LS	MAINTENANCE OF TRAFFIC	10	LF	12 IN. WHITE THERMOPLASTIC PAVEMENT MARKING - CROSSWALK
LUMP SUM	LS	MOBILIZATION	25	LF	24 IN. WHITE THERMOPLASTIC PAVEMENT MARKING - STOP LINE
2	EA	5 FT. STEEL PEDESTAL POLE WITH BREAKAWAY BASE	25	LF	REMOVE EXISTING PAVEMENT MARKING BY GRINDING
2	EA	10 FT. STEEL PEDESTAL POLE WITH BREAKAWAY BASE			
1	EA	VIDEO DETECTOR CAMERA (TERRA) - POLE MOUNT			
60	LF	VIDEO DETECTOR CAMERA CABLE			
1	EA	VIDEO DETECTOR INTERFACE			
4	EA	AUDIBLE PEDESTRIAN PUSHBUTTON ASSEMBLY WITH PUSHBUTTON SIGN			
1	EA	APS 2-WIRE CENTRAL CONTROL UNIT			
2	EA	16 IN.-1-SECTION, 1-WAY LED (COUNTDOWN) PEDESTRIAN SIGNAL HEAD - POST TOP			
2	CY	TEST PIT EXCAVATION			
1	EA	HANDHOLE			
900	LF	2-CONDUCTOR CABLE (NO. 14 AWG)			
600	LF	5-CONDUCTOR CABLE (NO. 14 AWG)			
60	LF	BARE COPPER GROUND WIRE (NO. 6 AWG)			
15	LF	2 IN. PVC CONDUIT [SCHEDULE 80] - TRENCHED			
25	LF	3 IN. PVC CONDUIT [SCHEDULE 80] - TRENCHED			
15	LF	3 IN. PVC CONDUIT [SCHEDULE 80] - BORED			
4	CY	CONCRETE FOUNDATION FOR TRAFFIC SIGNAL EQUIPMENT			
1	EA	GROUND ROD -3/4IN. X 10 FT. LENGTH			
LUMP SUM	LS	REMOVE EXISTING SIGNAL EQUIPMENT			

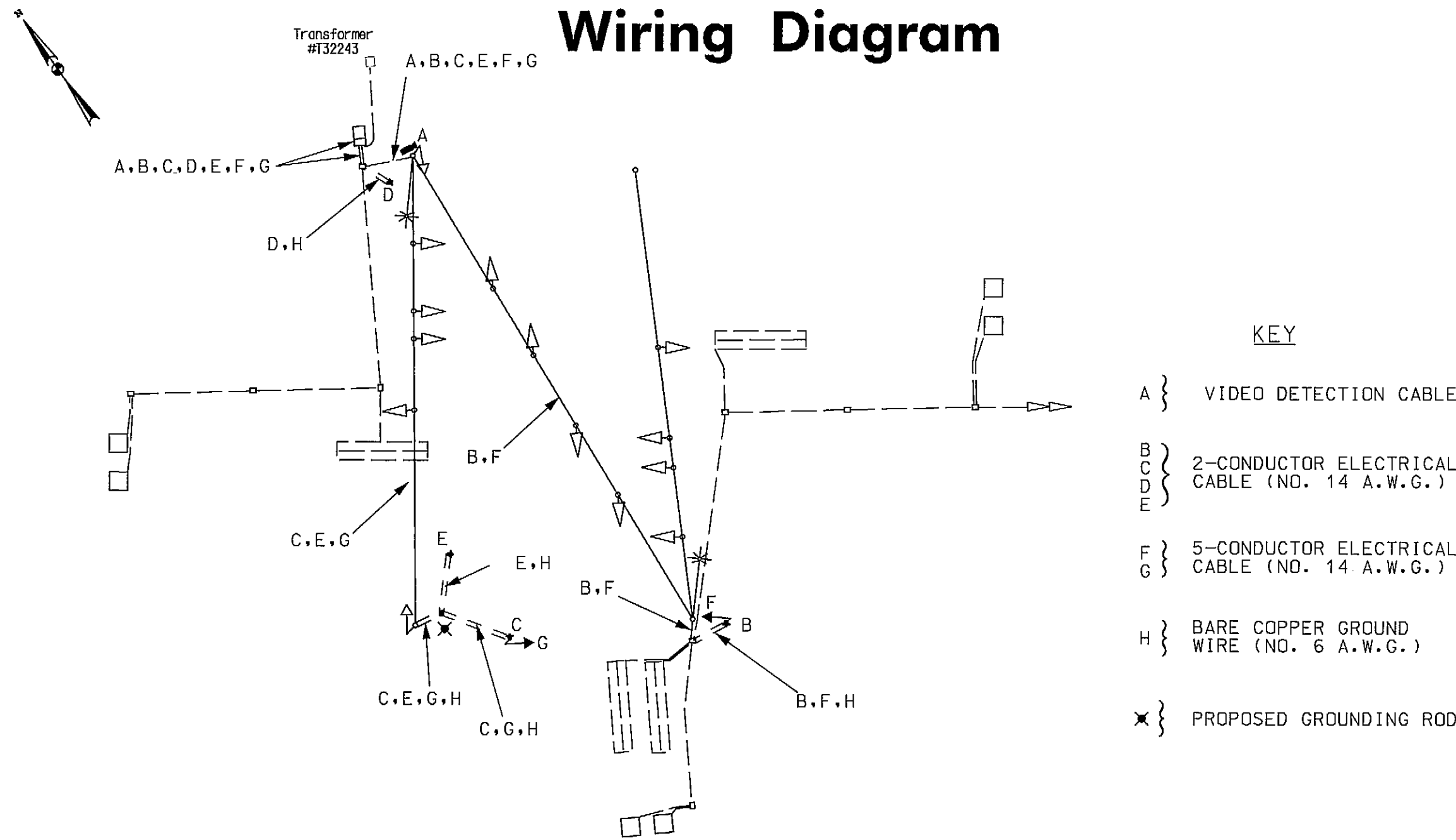
GENERAL NOTES

1. VIDEO CAMERA LOCATION/ALIGNING SHALL BE COORDINATED WITH THE SHA ENGINEER.
2. THE CONTRACTOR SHALL VERIFY ALL PROPOSED POLE AND CABINET LOCATIONS PRIOR TO INSTALLATION.
3. PAVEMENT MARKINGS DETAILED ARE PROPOSED AND ARE TO BE INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH MD-SHA STANDARDS. ALL OTHER PAVEMENT MARKINGS ARE TO BE CONSIDERED AS EXISTING.
4. GEOMETRICS SHALL BE CONFIRMED PRIOR TO THE INSTALLATION OF SIGNAL EQUIPMENT. ALL TRAFFIC SIGNAL FOUNDATIONS SHALL BE INSTALLED AT FINAL SIDEWALK OR CURB GRADE FOR CLOSED SECTIONS. HIGHEST ROADWAY PROFILE GRADE FOR OPEN SECTIONS, TO MEET CLEARANCES AS SPECIFIED IN MD 816.03, MD 818.01, MD 818.02, MD 818.04. THE CONTRACTOR SHALL VERIFY ULTIMATE GRADES PRIOR TO THE INSTALLATION OF ALL SIGNAL EQUIPMENT.
5. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC AND ARE NOT TO BE CONSIDERED COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN THE UTILITIES AND THE TRAFFIC SIGNAL EQUIPMENT WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE PROJECT ENGINEER IMMEDIATELY.
6. PUSHBUTTONS ARE TO BE LOCATED SO THAT THEY CAN BE ACTIVATED BY A PERSON IN A WHEELCHAIR REACHING LESS THAN 18 IN. FROM A 60 IN. x 60 IN. LEVEL LANDING AREA WITH A CROSS SLOPE OF LESS THAN OR EQUAL TO 2%.
7. THE 10 FT. SEPARATION BETWEEN PUSHBUTTONS IS TO BE MEASURED FROM FACE OF PUSHBUTTON TO FACE OF PUSHBUTTON, NOT CENTER TO CENTER OF POLE.
8. PUSHBUTTON ARROWS ARE TO BE PARALLEL TO THE CROSSING FOR WHICH THEY ARE INTENDED.
9. THE LOCATION OF ACCESSIBLE PEDESTRIAN SIGNAL PUSHBUTTONS MUST MEET LOCATION REQUIREMENTS OF MUTCD SEC. 4E.09 & FIG 4E-2 AND THE NCHRP PUBLICATION. "ACCESSIBLE PEDESTRIAN SIGNALS: GUIDE TO BEST PRACTICE". IF NOT MET, THE CONTRACTOR IS TO STOP WORK ON PUSHBUTTON LOCATIONS UNTIL A DESIGN WAIVER IS OBTAINED, APPROVED BY THE DIRECTOR, OFFICE OF TRAFFIC AND SAFETY.
10. ALL UNUSED CABLE SHALL BE REMOVED.

Phase Chart

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE 1 AND 5	←G-	←G-	R	R	←G-	←G-	R	R	R	R	R	R	DW	DW	DW	DW
1 AND 5 CHANGE TO 1 AND 6, 2 AND 5, OR 2 AND 6																
PHASE 1 AND 6	←G-	←G-	G	G	←R-	←R-	R	R	R	R	R	R	DW	DW	DW	DW
1 CHANGE	←Y-	←Y-	G	G	←R-	←R-	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 2 AND 5	←R-	←R-	R	R	←G-	←G-	G	G	R	R	R	R	DW	DW	DW	DW
5 CHANGE	←R-	←R-	R	R	←Y-	←Y-	G	G	R	R	R	R	DW	DW	DW	DW
PHASE 2 AND 6	←R-	←R-	G	G	←R-	←R-	G	G	R	R	R	R	WK	WK	DW	DW
PED CLEARANCE	←R-	←R-	G	G	←R-	←R-	G	G	R	R	R	R	FLDW	FLDW	DW	DW
2 AND 6 CHANGE	←R-	←R-	Y	Y	←R-	←R-	Y	Y	R	R	R	R	DW	DW	DW	DW
PHASE 3 AND 8	←R-	←R-	R	R	←R-	←R-	R	R	←GG	G	R	R	DW	DW	DW	DW
3 AND 8 CHANGE	←R-	←R-	R	R	←R-	←R-	R	R	Y	Y	R	R	DW	DW	DW	DW
PHASE 4 AND 8	←R-	←R-	R	R	←R-	←R-	R	R	R	←GG	G	DW	DW	DW	DW	DW
4 AND 8 CHANGE	←R-	←R-	R	R	←R-	←R-	R	R	R	Y	Y	DW	DW	DW	DW	DW
PHASE 4 AND 8 ALT	←R-	←R-	R	R	←R-	←R-	R	R	R	←GG	G	DW	DW	WK	WK	WK
PED CLEARANCE	←R-	←R-	R	R	←R-	←R-	R	R	R	←GG	G	DW	DW	FLDW	FLDW	FLDW
4 AND 8 ALT CHANGE	←R-	←R-	R	R	←R-	←R-	R	R	R	Y	Y	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/←R-	FL/←R-	FL/Y	FL/Y	FL/←R-	FL/←R-	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK

Wiring Diagram



MD-AMD Tracking No.: 10-AP-FR-007

<b>SHA</b>		STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF TRAFFIC & SAFETY TRAFFIC ENGINEERING DESIGN DIVISION	
US 40 (Baltimore National Pike) at OLD CAMP ROAD CITY OF FREDERICK, MD			
<b>GENERAL INFORMATION PLAN</b>			
SCALE <u>N/A</u>		DATE <u>November 10, 2011</u> CONTRACT NO. <u>BW996M82</u>	
DESIGNED BY <u>J. Dimdorfer/TTG</u>		CITY <u>FREDERICK</u>	
DRAWN BY <u>J. Dimdorfer/TTG</u>		LOGMILE <u>10004011.43</u>	
CHECKED BY <u>---</u>		TIMS NO. <u>L-162</u>	
F.A.P. NO. <u>N/A</u>		TOD NO. <u>N/A</u>	
TS NO. 2198-B	DRAWING <b>SG - 02</b> OF 02	SHEET NO. 2 OF 2	

PLOTTED: Thursday, November 10, 2011 AT 09:36 AM  
FILE: F:\2007\2007-0837\des\TDD\Signal Plan.dgn

